

What is claim d is:

1. A mobile communication control system having a plurality of access nodes and a mobile node, wherein

5 a source access node to which a source mobile terminal is connected via a radio link comprises:

an address manager configured to manage a first address and a second address of a destination mobile terminal connected to the mobile node via a radio link;

10 an address changer configured to change a destination address in a packet transmitted from the source mobile terminal, from the first address of the destination mobile terminal to the second address of the destination mobile terminal; and

a router configured to route the packet to a destination access node to which the mobile node is connected via a radio link, in accordance with the changed destination address;

15 the destination access node comprises:

an address manager configured to manage the second address and a third address of the destination mobile terminal;

20 an address changer configured to change the destination address in the received packet, from the second address of the destination mobile terminal to the third address of the destination mobile terminal; and

a router configured to route the packet to the mobile node in accordance with the changed destination address; and

25 the mobile node comprises:

an address manager configured to manage the first address and the third address of the destination mobile terminal;

an address changer configured to change the destination address in the received packet, from the third address of the

destination mobile terminal to the first address of the destination mobile terminal; and

a packet transmitter configured to transmit the packet to the destination mobile terminal in accordance with the  
5 changed destination address.

2. The mobile communication control system according to claim 1, further comprising a network management server, wherein

10 the mobile node comprises an address assignment information transmitter configured to transmit address assignment information for a new mobile terminal to the network management server in accordance with an address assignment request transmitted from the new mobile terminal;

15 the network management server comprises:

an address manager configured to manage a first address, a second address and a third address of the new mobile terminal in accordance with the received address assignment information; and

20 an address assignment direction transmitter configured to transmit an address assignment direction for the new mobile terminal to the source access node and the destination access node; and

the address manager of the source access node manages the  
25 first address and the second address of the new mobile terminal in accordance with the address assignment direction; and

the address manager of the destination access node manages the second address and the third address of the new mobile terminal in accordance with the address assignment

direction.

3. The mobile communication control system according to claim 1, further comprising a network management server,  
5 wherein

the destination access node comprises an address assignment information transmitter configured to transmit address assignment information for the destination mobile terminal connected to the mobile node to the network management  
10 server in accordance with an address assignment request transmitted from the mobile node;

the network management server comprises:

an address manager configured to manage a first address, a second address and a third address of the destination mobile  
15 terminal in accordance with the received address assignment information; and

an address assignment direction transmitter configured to transmit an address assignment direction for the destination mobile terminal to the source access node; and

20 the address manager of the source access node manages the first address and the second address of the destination mobile terminal in accordance with the address assignment direction.

4. A network management server in a mobile communication  
25 network for transferring a packet to a destination mobile terminal connected to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the server comprising:

an address manager configured to manage a first address,

a second address and a third address of the destination mobile terminals in accordance with address assignment information received from the mobile node; and

an address assignment direction transmitter configured  
5 to transmit an address assignment directions for directing a source access node to manage the first address and the second address of the destination mobile terminal, and to transmit an address assignment direction for directing the destination access node to manage the second address and the third address  
10 of the destination mobile terminal, a source mobile terminal being connected to the source access node via radio link.

5. A network management server in a mobile communication network for transferring a packet to a destination mobile  
15 terminal connected to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the server comprising:

an address manager configured to manage a first address, a second address and a third address of the destination mobile  
20 terminal in accordance with address assignment information received from the destination access node; and

an address assignment direction transmitter configured to transmit an address assignment direction, the address assignment direction directing a source access node to which  
25 a source mobile terminal is connected via radio link to manage the first address and the second address of the destination mobile terminal.

6. A mobile node in a mobile communication network for

transferring a packet from a source mobile terminal to a destination mobile terminal, the source mobile terminal being connected to a source access node via radio link, the destination mobile terminal being connected to the mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the node comprising:

an address manager configured to manage a first address and a third address of the destination mobile terminal;

an address changer configured to change a destination address in the packet transmitted from the source access node, from the third address of the destination mobile terminal to the first address of the destination mobile terminal;

a packet transmitter configured to transmit the packet to the destination mobile terminal in accordance with the changed destination address; and

an address assignment information transmitter configured to transmit address assignment information including the first address and the third address of a new mobile terminal to a network management server in accordance with an address assignment request transmitted from the new mobile terminal.

7. The mobile node according to claim 6, further comprising an address assignment request transmitter configured to transmit an address assignment request for mobile terminals connected to the mobile node to a second access node, when the mobile node enters an area managed by the second access node different from a first access node to which the mobile node is connected at the moment.

8. An access node in a mobile communication network for transferring a packet to a destination mobile terminal connected to a mobile node via a radio link, the mobile node being connected to the access node via a radio link, the node  
5 comprising:

an address manager configured to manage a second address and a third address of the destination mobile terminal connected to the mobile node via a radio link;

an address changer configured to change a destination  
10 address in the packet transmitted from a source access node, from the second address of the destination mobile terminal to the third address of the destination mobile terminal, a source mobile terminal being connected to the source access node via a radio link;

15 a router configured to route the packet to the mobile node in accordance with the changed destination address; and

an address assignment information transmitter configured to transmit address assignment information including the second address and the third address of the destination mobile terminal  
20 to a network management server in accordance with an address assignment request transmitted from the mobile node.

9. A mobile communication control system having a plurality of access nodes, an anchor node and a mobile node, wherein

25 a source access node to which a source mobile terminal is connected via a radio link comprises:

an address manager configured to manage a first address and a second address of a destination mobile terminal connected to the mobile node via a radio link;

an address changer configured to change a destination address in a packet transmitted from the source mobile terminal, from the first address of the destination mobile terminal to the second address of the destination mobile terminal; and

5       a router configured to route the packet to the anchor node in accordance with the changed destination address;

the anchor node comprises:

an address manager configured to manage the second address and a third address of the destination mobile terminal  
10 and encapsulation information for specifying the mobile node;

an address changer configured to change a destination address in the packet transmitted from the source access node, from the second address of the destination mobile terminal to the third address of the destination mobile terminal, and to  
15 encapsulate the packet using the encapsulation information; and

a router configured to route the packet to a destination access node in accordance with the encapsulation information, the mobile node being connected to the destination access node via a radio link;

20       the destination access node comprises:

an address manager configured to manage the encapsulation information; and

a router configured to decapsulate the received packet, and to route the packet to the mobile node specified by the encapsulation information encapsulated in the packet, when the  
25 packet includes the third address of the destination mobile terminal; and

the mobile node comprises:

an address manager configured to manage the first address

and the third address of the destination mobile terminal;

an address changer configured to change a destination address in the received packet, from the third address of the destination mobile terminal to the first address of the destination mobile terminal; and

a packet transmitter configured to transmit the packet to the destination mobile terminal in accordance with the changed destination address.

10 10. The mobile communication control system according to claim 9, further comprising a network management server, wherein

the mobile node comprises an address assignment information transmitter configured to transmit address assignment information for a new mobile terminal to the network management server in accordance with an address assignment request transmitted from the new mobile terminal;

the network management server comprises:

an address manager configured to manage a first address, a second address and a third address of the new destination mobile terminal and the encapsulation information, in accordance with the received address assignment information; and

an address assignment direction transmitter configured to transmit an address assignment direction for the new mobile terminal to the source access node and the anchor node;

the address manager of the source access node manages the first address and the second address of the new mobile terminal in accordance with the address assignment direction; and



the address manager of the anchor node manages the second address and the third address of the new mobile terminal and the encapsulation information, in accordance with the address assignment direction.

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11. The mobile communication control system according to claim 9, further comprising a network management server, wherein

the source access node comprises an address assignment  
10 information transmitter configured to transmit address assignment information including the encapsulation information to the network management server in accordance with an address assignment request transmitted from the mobile node;

the network server comprises:

15 an address manager configured to manage the first addresses, the second addresses and the third addresses of the destination mobile terminal and the encapsulation information, in accordance with the received address assignment information; and

20 an address assignment direction transmitter configured to transmit an address assignment direction for the destination mobile terminal to the anchor node; and

the address manager of the anchor node manages the first addresses, the second addresses and the third addresses of the  
25 destination mobile terminal and the encapsulation information, in accordance with the address assignment direction.

12. A network management server in a mobile communication network for transferring a packet to a destination mobile

terminal via an anchor node, the mobile terminal being connected to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the server comprising:

5           an address manager configured to manage a first address, a second address and a third address of a new mobile terminal and encapsulation information for specifying the mobile node, in accordance with address assignment information for the new mobile terminal received from the mobile node; and

10           an address assignment direction transmitter configured to transmit an address assignment direction for directing a source access node to manage the first address and the second address of the new mobile terminal, and to transmit an address assignment direction for directing the anchor node to manage  
15 the second address and the third address of the new mobile terminal and the encapsulation information, a source mobile terminal being connected to the source access node.

13.   A network management server in a mobile communication  
20 network for transferring a packet to a destination mobile terminal via an anchor node, the destination mobile terminal being connected to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the server comprising:

25           an address manager configured to manage a first address, a second address and a third address of the destination mobile terminals and encapsulation information for specifying the mobile node in accordance with address assignment information received from the mobile node; and

an address assignment direction transmitter configured to transmit an address assignment direction for directing the anchor node to manage the second address and the third address of the destination mobile terminal and the encapsulation  
5 information.

14. An access node in a mobile communication network for transferring a packet to a destination mobile terminal via an anchor node, the destination mobile terminal being connected  
10 to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the node comprising:

an address manager configured to manage encapsulation information for specifying the mobile node; and

15 a router configured to decapsulate the packet, and to route the decapsulated packet to the mobile node specified by the encapsulation information encapsulated in the packet, when an address of the destination mobile terminal is included in the packet received from the anchor node.

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15. An anchor node in a mobile communication network for transferring a packet to a destination mobile terminal via an anchor node, the destination mobile terminal being connected to a mobile node via a radio link, the mobile node being connected  
25 to a destination access node via a radio link, the node comprising:

an address manager configured to manage a second address and a third address of the destination mobile terminal and encapsulation information for specifying the mobile node;

an address changer configured to change a destination address in the packet transmitted from a source access node, from the second address of the destination mobile terminal to the third address of the destination mobile terminal, and to  
5 encapsulate the packet using the encapsulation information, a source mobile terminal being connected to the source access node; and

a router configured to route the encapsulated packet to the destination access node in accordance with the  
10 encapsulation information.

16. A mobile communication control system having a plurality of access nodes and a mobile node, wherein

a source access node to which a source mobile terminal  
15 is connected via a radio link comprises:

an address manager configured to manage a first address and a second address of a destination mobile terminal connected to the mobile node via a radio link;

an address changer configured to change a destination  
20 address in a packet transmitted from the source mobile terminal, from the first address of the destination mobile terminal to the second address of the destination mobile terminal; and

a router configured to route the packet to the mobile node in accordance with the changed destination address; and

25 the mobile node comprises:

an address manager configured to manage the first address and the second address of a destination mobile terminal;

an address changer configured to change a destination address in the received packet, from the second address of the

destination mobile terminal to the first address of the destination mobile terminal; and

a packet transmitter configured to transmit the packet to the destination mobile terminal in accordance with the  
5 changed destination address.

17. The mobile communication control system according to claim 16, wherein

a destination access node to which the mobile node is  
10 connected via a radio link comprises an address assigner configured to assign a predetermined address area to the mobile node in accordance with an address assignment request transmitted from the mobile node, the predetermined address area being selected from among address areas assigned to the  
15 destination access node; and

the address manager of the mobile node assigns a second address of a new mobile terminal included in the predetermined address area in accordance with an address assignment request transmitted from the new mobile terminal, so as to manage a first  
20 address and the second address of the new mobile terminal.

18. A mobile node in a mobile communication network for transferring a packet to a destination mobile terminal connected to a mobile node via a radio link, the mobile node  
25 being connected to a destination access node via a radio link, the node comprising:

an address manager configured to manage a first address and a second address of the destination mobile terminal;

an address changer configured to change a destination

address in the packet transmitted from a source access node, from the second address of the destination mobile terminal to the first address of the destination mobile terminal, a source mobile terminal being connected to the source access node; and

5       a packet transmitter configured to transmit the packet to the destination mobile terminal in accordance with the changed destination address;

          and wherein the address manager assigns a second address of a new mobile terminal included in a predetermined address  
10       area assigned by the destination access node in accordance with an address assignment request transmitted from the new mobile terminal, so as to manage a first address and the second address of the new mobile terminal.

15   19.   An access node in a mobile communication network for transferring a packet to a destination mobile terminal connected to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio link, the node comprising:

20       an address assigner configured to assign a predetermined address area to the mobile node in accordance with an address assignment request transmitted from the mobile node, the predetermined address area being selected from among address areas assigned to the destination access node.

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20.   A network management server in a mobile communication network for transferring a packet to a destination mobile terminal connected to a mobile node via a radio link, the mobile node being connected to a destination access node via a radio

link, wherein the network management server manages all addresses of a plurality of destination mobile terminals connected to the mobile node via radio links.